The Clickable Map Concept: Status of the Maryland Water Monitoring Council's Efforts to Provide Metadata Through a Geographic Information System

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Biographical Sketches of Authors

Matthew Rowe has worked for the last five years as an environmental scientist with the Maryland Department of the Environment. His duties include compilation of the State's list of impaired waters (e.g., 303[d] List), environmental oversight of dredging projects, and using biological communities as indicators of water quality. Matt has worked for the Oregon Department of Fish and Wildlife in stream restoration and received a National Network for Environmental Management Studies (NNEMS) fellowship from EPA. Matt's interests include TMDL implementation, stream restoration techniques and Smart Growth approaches to sustainable development.

Chris Swan recently became an Assistant Professor at the University of Maryland Baltimore County and is affiliated with the University's Center for Urban Environmental Research and Education. Chris received his Ph.D. in biology from the University of Maryland in 2003. His academic interests include stream ecology, restoration and the transfer of energy from riparian corridors to the stream channel. Chris's current research focuses on the mechanisms by which allochthonous resource management interacts with benthic habitat characteristics to provide the energy base for stream food webs.

Martin Hurd obtained his Master of Science degree from West Virginia University in 1995. Since then, he has worked as a biologist for the Maryland Department of the Environment and the Department of Natural Resources. Martin is currently working on the State's biological stream survey; collecting and analyzing data on aquatic macroinvertebrates, fish, amphibians, reptiles, water quality, and stream habitat. His current interests include using advanced GIS techniques and predictive models to assess water quality and protect aquatic biodiversity.

Abstract

The Maryland Water Monitoring Council (MWMC) was established in Maryland over 10 years ago. The Council consists of representatives from State and federal agencies, local governments, academia, volunteer monitoring groups, and the private sector who donate their time to enhance coordination and collaboration among the water monitoring community. In fulfillment of this mission, the MWMC's Data Management Committee (DMC) recently developed on-line tools to survey and display planned water quality monitoring activities in the State. A Web survey form (http: //mddnr.chesapeakebay.net/mwmc/data_request_04.cfm.) was created to allow water monitoring groups to quickly and easily enter standardized monitoring program metadata into a central database. Data from this web form is then joined to the geographically referenced data and posted on the Web using ArcIMS GIS software (located at http://cuereims.umbc.edu/MWMC). This ArcIMS system allows any user with an Internet connection and browser to view or query water quality monitoring stations, and their associated metadata, sampled by multiple organizations throughout the State. Combining monitoring program information in this way across multiple levels of government and the private sector allows previously disparate groups to use limited monitoring resources more effectively as well as better target data gaps among monitoring programs.

Development of the map and Web form is a cooperative endeavor between the Maryland Department of the Environment, the Maryland Department of Natural Resources and the University of Maryland Baltimore County. The DMC is currently developing ideas to improve the mapping interface such as including more detailed monitoring program data, watershed status and trends, enhanced query capability, expanded data layers, and Web links to other related data and sites. The DMC is also drafting funding proposals for a full-time GIS staff person

to accelerate map and Web form enhancements as well as soliciting input and suggestions from the water monitoring community on ways to make the MWMC's ArcIMS system a more useful collaboration tool.